Research Proposal Form of the Thesis Entitled

Assessment of determinants and analysis of predictors that influence the patients to consume and quit the habit of smokeless tobacco consumption – Cross Sectional Study.

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INTRODUCTION

The habit of tobacco consumption contributes majorly to morbidity and mortality in worldwide. The World Health Organisation (WHO) reports that more than 1 billion individuals are hooked to tobacco smoking, with projections indicating that tobacco-related fatalities will increase from roughly 6 million annually to almost 10 million by 2030.[1]

In low- and middle-income nations such as India, approximately 1 million adults perish annually owing to tobacco consumption, constituting 9.5% of total mortality. India confronts a dual challenge of tobacco consumption, encompassing both smoking and smokeless tobacco[2]. Families of the smokers face huge economic burden due to premature loss of the individual who has the habit of tobacco chewing/ smoking. Additionally, this has an impact on the healthcare system, particularly in economies that are still in the process of growing and have limited resources.[3]

The cessation of tobacco use, whether by smoking or chewing, is a dynamic process characterised by several efforts to quit, often resulting in relapse.[4] The decision made by the individual to quit the habit is mostly multifactorial such as medical advice, health scares and benefits of quitting influence whether or not to quit the habit.[4]

Dentists and physicians are in the powerful position to reinforce and motivate the patients with habit of tobacco consumption when they themselves are familiar with the characteristics and factors that trigger the initiation of the habit or lead into a relapse. An understanding of the traits, incentives, and strategies related to smoking cessation can assist physicians in their counselling endeavours. While reasons for quitting have been documented among self-reported quitters in various contexts.[5] Recognising smokers motivation to stop is crucial and may serve as an effective instrument in customising smoking cessation strategies for both individual patients and the broader community. [6]

Cessation-aid interventions that are designed according to specific motivations to quit smoking are likely to increase chances of successful cessation. Numerous studies have already been undertaken on the frequency and determinants of smoking; however, the predictors have not been analysed. Aim of the study is to identify the effect of socioeconomic status on quit rates. Also, whether educational level has any effect on the cessation rates among the individuals. Multiple logistic regression analysis will be applied to explore predictors including gender, marital status and dependence on nicotine.

Statement of Problem

It is observed that socio-economic factors can influence the habits such a tobacco consumption and the ability to quit the habit.

Clinical Implication of Study.

Due to its high prevalence of tobacco consumption, oral cancer cases are rising among the population, leading to mortality and morbidity. Understanding the factors that lead to this habit can help the health care providers to focus while providing tobacco cessation counselling there by emphasizing on the need to education and prevention programs.

AIM

Assessment of determinants that influence the patients to consume the smokeless form of tobacco and quit the habit of tobacco chewing.

OBJECTIVE

1. Assess the socio-economic factors that influence the patients to consume the tobacco
2. Evaluate the determinants that compel patients to discontinue the practice of tobacco chewing and use.

3. To predict relationship between the factors through multiple logistic regression analysis.
4. To assess Tobacco cessation predictability through a scale.

HYPOTHESIS

RESEARCH HYPOTHESIS:

- Assess socio-economic factors that influence the patients to consume the tobacco.
- Evaluate the determinants that compel patients to discontinue the practice of tobacco chewing and use.

NULL HYPOTHESIS

No circumstances exist that compel patients to cease tobacco usage.

REVIEW OF LITERRATURE

1. **Duncan *et al* in 1992** conducted a study to understand the reasons as to why the patients quit the habit of tobacco smoking and the methods that they used during this procedure. Total 916 patients from private practice and 2354 patients from websites were enrolled into the study. Each participant of the study was asked to fill a questionnaire consisting of basic demographic information, smoking history, symptoms if any, reasons to quit the habit of smoking. Around 74% reported of the reason for quitting for better health. Other important reasons were pressure from the family. One of the most common barriers for quitting was found to be addiction to nicotine [5].

2. **Sieminska *et al* in 2008** conducted study to assess the way polish nationals quit the habit of tobacco smoking and the reasons that motivated them to do so. Individuals attending health care unit were selected via convenience sampling. Data was collected from 618

smokers (ex-smokers and current smokers) through a questionnaire. Around 77% of total individuals attempted to quit smoking on their own and by using cold turkey method. Major motivators for quitting the habit were general health concerns (57%) and personal health problems (32%). The researchers concluded that majority of polish nationals attempted to quit the habit without any help or assistance from health professionals, suggestive of need of antitobacco campaign on wider basis [6].

3. **Gilani *et al* in 2013** carried out a survey among Pakistani nationals to find out the prevalence and sociodemographic determinants regrading the use of tobacco. Multistage stratified random area sampling was done in urban-rural populations. Associations between variables were ascertained using regression analysis. Questions regarding age, gender, education and area of residence were recorded along with history of tobacco use. To understand the socio-economic status world banks poverty score card was used, which consisted of 10 questions about members and assest's of household. Prevalence was found to be 15% among the nationals. There was an inverse relationship between education and smoking habit whereas positive relationship with increasing age [4].

4. **Buczkowski K *et al* in 2014** conducted a study to investigate factors that motivate smokers for cessation of smoking. With the mean age being 41 years the study consisted of 35 participants in total. The focus-group discussions and semi-structured interviews were conducted by the experienced moderator. The researchers found out that the major reason for quitting was the ban on smoking at work place due to rules and at home due to family members wishes. Other reasons being the high cost of cigarettes and the unpleasant smell associated with smoking. health concern, pregnancy and breastfeeding were other reasons. This study concluded that it is necessary to improve on the measure

to prevent relapse so that patients are enabled to successfully quit the cessation attempts[1].

5. **Soontaree J et al. (2014)** identifed the smoking cessation predictors among male smokers with hypertension who were Thai. The study investigated several factors impacting smoking cessation behaviour using a cross-sectional, predictive approach. In this study, there was no significant correlation found between smoking cessation behaviour and age, education, nicotine dependence, perceived benefits and barriers of quitting, and social support. The study emphasised the drawbacks of applying western-developed instruments and non-probability sampling in a Thai setting. The study offers insightful information about the intricate interactions between variables affecting the smoking quitting behaviour of male smokers with hypertension who are Thai. The results highlight the necessity of culturally aware and situation-specific approaches to smoking cessation programmes [7].

6. **Bravin J *et al* in 2015** studied the effect of socioeconomic factors on cessation of smoking. The researchers gathered the data from the San Francisco Stop Smoking Internet website from 109 countries with total of 13,620 adult smoker. After selection participants were followed up assessments at 1, 3, 6, and 12 months. Participants answered through questionnaire that included demographics, smoking patterns, and history. Analysis was done using SAS 9.4 and multiple logistic regression analysis was done using PROC GLIMMIX. Around 4678 participants ie 38.3% reported quitting smoking for at least seven days at one of the follow-ups. Multilevel logistic regression model showed that greater gross domestic product (GDP) per capita, higher level of education, and socioeconomic status significantly predicted the likelihood of quitting at 1-month follow-up [8].

7. **Shah *et al* in 2018** wrote a review on the socio-economic and cultural aspects of tobacco in India. They found out that tobacco consumption was more prevalent in lower socio-economic status group. Stating the reasons of lack of community support, decreased motivation and unable to continue with strict adherence to tobacco abstinence protocol. Higher socio-economic status were seen to have addiction towards cigarette smoking whereas lower socio-economic groups were addicted to tobacco chewing habits. Implementation of better policy and population level interventions are necessary to tobacco control and implementation policies [9].

8. **Kastaun *et al* in 2020** in Germany conducted a study to find out the association between income and education among the cessation aids and tobacco quitting habit. The study was conducted on 12,161 smokers in which they analysed quit attempts along with use of cessation aids and success in quitting. The results showed that higher income was significantly associated with higher odds of using cessation medication. The researchers concluded that low-income smokers are more likely to attempt quitting but less likely to use cessation medication compared to high-income smokers. There is a need of equitable access to cessation medication to reduce SES-related health disparities [10].

9. **Martins *et al* 2021** conducted a survey among the nationals of Pakistan to ascertain the factors that motivate them to quit tobacco consumption. Data was collected from individuals above 18 years of age and had smoked at least 100 cigarettes in their life time. A questionnaire consisting of data regarding demographics, history of smoking, methods employed to quit smoking, factors that helped the individuals to quit smoking and any public health interventions used during this period of quitting was assessed. Majority of individuals (62.1%) were able to quit tobacco using cold turkey method.

Health of individual, family's health, family's pressure and peer pressure were found to be the reasons for quitting of tobacco [11].

METHODOLOGY

- **SOURCE OF DATA**

This cross-sectional study will be at Nair Hospital Dental college. The data will be collected from the patients visiting tobacco cessation centre.

- **METHOD OF COLLECTION-**

Data will be collected through convenience sampling from the patients visiting tobacco cessation centre. Individuals will be screened for the history of tobacco consumption.

- **INCLUSION CRITERIA**

1. Patients chewing smokeless form of tobacco, gutka, pan masala, areca-nut, mishri
2. Smokeless tobacco chewers were defined as consumption of any form of tobacco at the time of study.

EXCUSION CRITERIA

1. Patients unwilling to engage in the study
2. Patients undergoing treatment with of Depression.
3. Case of oral cancer and undergoing treatment.

Data: The determinants of consumption of tobacco such as gender, geographic area of residence, age socio-economic status, family history of tobacco, education. Details of current tobacco usage along with previous history of tobacco consumption, attempts of quitting the habit made and the reasons for relapse will be noted.

The questionnaire will be translated in local language of Hindi and Marathi. Face to face interviews will be conducted with the respondents visiting the Tobacco cessation clinic. Questions on tobacco cessation predictability will be asked to the patients. The patients will then be assessed on the basis on this scale. This will be followed by tobacco counselling sessions.

Statistical analysis

To calculate the sample size when the proportion of the population consuming smokeless tobacco is 21% (p=0.21p = 0.21p=0.21), we use the formula for a single proportion:

$$N = \frac{Z^2 \cdot p \cdot (1-p)}{d^2}$$

Where:

- **Z = 1.96 (for 95% confidence level),**
- **p= 0.21 (proportion of population consuming smokeless tobacco),**
- **d = Margin of error (e.g., 5% or 0.05).**

Calculation

1. **after substituting values:**

$$n = \frac{(1.96)^2 \cdot 0.21 \cdot (1-0.21)}{(0.05)^2}$$

$$n = \frac{(3.8416) \cdot (0.21) \cdot (0.79)}{0.0025}$$

$$n = \frac{3.8416 \cdot 0.16590.}{0.0025}$$

$$n = \frac{0.6375}{0025}$$

$$n = 255$$

Data analysis

Data will be examined using SPSS software. For continuous variables mean, median and standard deviation will be determined. Chi-square test will be done for categorical variables like education, income, and awareness. Logistic Regression Analysis to identify determinants and predictors

RESULTS CONCLUSION EXPECTED:

1. It is expected to understand the factors that lead the patient to start the habit of smoking.
2. Factors that lead to relapse the patient to the habit of consumption of tobacco.
3. Understanding these factors will help in better planning better counselling Strategies that will help the dentist to motivate the patient to quit the habit and not go into relapse.

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